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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,563	12/21/2001	Ronald Earl Pruitt	PLC-001	7111
51414 7590 08/18/2009				
GOODWIN PROCTER LLP PATENT ADMINISTRATOR 53 STATE STREET EXCHANGE PLACE BOSTON, MA 02109-2881				
EXAMINER				
MEINCKE DIAZ, SUSANNA M				
ART UNIT		PAPER NUMBER		
3692				
NOTIFICATION DATE		DELIVERY MODE		
08/18/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PatentBos@goodwinprocter.com

hmcpeake@goodwinprocter.com

glenn.williams@goodwinprocter.com

### Office Action Summary

**Application No.**

10/037,563

**Applicant(s)**

PRUITT, RONALD EARL

**Examiner**

Susanna M. Diaz

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25, 29-34 and 36-38 is/are pending in the application.
- 4a) Of the above claim(s) 14-18, 20-24 and 29-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 19, 25, 34 and 36-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This final Office action is responsive to Applicant's amendment filed May 28, 2009.

Claims 26-28, 35, and 39-40 have been cancelled.

Claims 1 and 8 have been amended.

Claims 1-13, 19, 25, 34, and 36-38 are presented for examination. (Non-elected claims 14-18, 20-24, and 29-33 stand as withdrawn.)

### ***Response to Arguments***

2. Applicant's arguments filed May 28, 2009 have been fully considered but they are not persuasive.

Regarding the rejection under 35 U.S.C. § 103(a), Applicant argues that "Bergmann's approach [to portfolio management] is limited to determining an initial asset allocation of funds among particular *asset classes* – not to the determination of whether to execute individual trades within a portfolio based on how the transactions affect overall tax liability, as claimed." (Page 12 of Applicant's response) Claim 1 recites that the after-tax returns are optimized for each financial portfolio in association with execution of each of the plurality of possible adjustments to a plurality of positions held in each financial portfolio based on at least one investment style. Deciding which investment style, from among various available styles, upon which to model an investment account (as disclosed by Bergmann) implies a plurality of available "adjustments" that can be made (or selected from) when setting up an account. The

claimed invention does not clarify what is meant by "possible adjustments to a plurality of positions held in each financial portfolio." Applicant's arguments reference the execution of individual trades, but there is no trading recited in the claims. The claims do not preclude an original assignment of portfolios and/or accounts.

Furthermore, Bergmann allows a user to alter existing asset classes and portfolio mixes by specifying different coefficients (Bergmann: ¶ 11). Performing analysis based on different asset classes yields an understanding of how different investment approaches would affect the portfolio. For example, varying asset class mixes may be set for a portfolio. Again, the claimed invention does not provide any details regarding how the possible adjustments relate to any available pending trades within a previously established portfolio. Furthermore, the claims do not recite each and every possible adjustment; therefore, within the scope of the claims, it is possible that only a subset of available adjustments in a portfolio is assessed.

Applicant makes similar arguments regarding the Peterson reference. For example, Applicant submits that "Peterson addresses the decision of whether or not to purchase that fund as part of an initial allocation of assets, and if so whether to put it in a qualified (i.e., tax-deferred) account. Conversely, Applicant's approach considers the tax implications of day-to-day transactions, thus requiring the incorporation of tax constraints into the objective function." (Pages 13-14 of Applicant's response) Again, Applicant's claimed invention does not capture the fact that day-to-day transactions of trades of funds or stocks (for example) within an existing portfolio are necessarily contemplated. Furthermore, choosing one asset mix to invest in over another for each

portfolio (as taught by Bergmann) does imply an analysis of various possible positions in each financial portfolio. Again, the claims lack details about specific, individual trades for an existing portfolio, much less how the adjustments would relate to a set of available trades and how analysis for each available trade would be performed and presented to a user (e.g., within the context of the claimed computer-executable portfolio optimizer module).

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-13, 19, 25, 34, and 36-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 8 recite details of a “computer-executable data pre-processor” and a “computer-executable portfolio optimizer module.” It is not clear what the metes and bounds of the “computer-executable data pre-processor” and the “computer-executable portfolio optimizer module” are. Are they limited to software, hardware, or software executed by hardware? Applicant is reminded that apparatus claims are defined by structural elements and their corresponding functionality. The dependent claims fail to remedy the questions regarding scope of the “computer-executable data pre-processor” and the “computer-executable portfolio optimizer module”; therefore, the same rejections apply. A broad, yet reasonable interpretation of a “computer-executable data

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pre-processor" and a "computer-executable portfolio optimizer module" could merely require software, thereby adding to the confusion of the true metes and bounds of any resulting structure of these claim elements, which are required to properly limit an apparatus claim. Now that the previously recited "data pre-processor" (which was previously interpreted as a physical computer processor) has been amended to recite a "computer-executable data pre-processor," this implies that the "data pre-processor" is actually a set of software instructions (since it is now "computer-executable"). The recited "investor account database" could just be a collection of information (e.g., in a paper file); therefore, the apparatus claims do not clearly recite any limiting structural elements, thereby failing to clearly define the metes and bounds of the apparatus claims.

Claim 34 is dependent from a cancelled claim, which is improper. The metes and bounds of claim 34 cannot be assessed since it is not clear from which claim(s) claim 34 depends.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-13, 19, 25, and 36-38 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

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As discussed in the rejection under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph, claims 1-13, 19, 25, and 36-38 effectively recite a collection of data *per se* in combination with software *per se*, both of which are non-statutory, thereby rendering the claims as a whole non-statutory.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4, 6-8, 11-13, and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (US 2002/0143682) in view of Peterson et al. (U.S. Patent No. 7,016,873).

Bergmann discloses an apparatus allowing for tax-optimized, managed investment portfolios, comprising:

[Claim 1] an investor account database storing account data for a plurality of financial portfolios wherein the assets of each financial portfolio are allocated to least one investment style (¶¶ 33-35 – Each separate account is effectively one of multiple mini-portfolios. The accounts may be aggregated to form the overall portfolio);

a computer-executable data pre-processor for receiving (i) historical transactions associated with each financial portfolio (¶ 10 – Each asset class may be characterized,

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at least in part, based on historical data associated with the respective assets), and (ii) proposed transactions comprising possible adjustments to a plurality of positions held in each financial portfolio based on the at least one investment style (¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102. By selecting a preferred portfolio, the investor accepts a particular combination of characteristics of the overall portfolio. Each mini-portfolio would represent a unique mix of assets to be held in a portfolio; therefore, getting from one mini-portfolio to another would effectively imply the execution of proposed transactions);

[Claim 2] wherein the investment style represents a model portfolio (¶¶ 11-29, 44-49);

[Claim 3] wherein the investment style allows for creation of a model portfolio (¶¶ 11-29, 44-49);

[Claim 4] wherein the model portfolio data comprises a plurality of securities and their respective weights (¶¶ 11-29, 44-49);

[Claim 6] wherein the portfolio optimizer is further configured to model a tax code applicable to the client associated with each financial portfolio (¶ 34 – It is presumed that the 401k, regular IRA, Keogh, and Roth IRA investments are treated as dictated by the respective tax code);

[Claim 7] wherein the portfolio optimizer is further configured to provide incremental tax costs resulting from the proposed transactions (¶¶ 38-43);

[Claim 36] wherein the portfolio optimizer is further configured to optimize allocations of trades within each financial portfolio by constructing and solving a mathematical representation of an objective function bound by constraints, wherein the constraints represent the account data associated with each investment portfolio (¶¶ 4, 47-51); [Claim 37] wherein the portfolio optimizer is further configured to modify the proposed transactions based on the optimized allocations (¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102. By selecting a preferred portfolio, the investor accepts a particular combination of characteristics of the overall portfolio).

Regarding claim 1, Bergmann discloses a computer-executable portfolio optimizer module configured to optimize after-tax returns for each financial portfolio, factoring in risk, return, and capital gains with execution of each of the plurality of possible adjustments and the historical transactions associated with each financial portfolio (¶ 10 – Each asset class may be characterized, at least in part, based on historical data associated with the respective assets; ¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102; Abstract, ¶¶ 4, 51 -- Risk is taken into account; Abstract, ¶¶ 4, 7, 11, 16, 19, 22-25 – Return is taken into account; Abstract, ¶ 56 – Capital gains are taken into account); however, Bergmann does not explicitly teach

that the capital gains are assessed in terms of short term capital gains, short term capital losses, long term capital gains and long term capital losses. However, Peterson discloses a tax sensitive portfolio optimization strategy that accounts for capital gains and the tax laws governing the long-term and short-term capital gains rate (Peterson: col. 14, lines 20-34). In Peterson, "the tax effect associated with capital gains or losses on security is considered only in the case where securities are sold in a taxable account" and an objective function is used to assess this tax effect (Peterson: col. 24, lines 55-63). Peterson's optimization is performed for assessing taxable and non-taxable effects on a portfolio (Peterson: abstract; col. 25, lines 1-44) in order to maximize after-tax portfolio returns for an acceptable risk tolerance (Peterson: col. 2, lines 1-10). The non-linear objective function facilitates manageable analysis of a greater number of constraints within a flexible model (Peterson: col. 25, lines 4-8, 25-35). Peterson's optimization presents a common approach to the type of tax-related, multi-constraint portfolio optimization discussed in Bergmann (which also utilizes objective functions); therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Bergmann to specifically analyze short term capital gains, short term capital losses, long term capital gains and long term capital losses in order to facilitate manageable analysis of a greater number of constraints within a flexible model while yielding a more comprehensive understanding of the tax consequences associated with capital gains.

Bergmann discloses an apparatus allowing for tax-optimized, managed investment portfolios, the apparatus comprising:

[Claim 8] an investor account database storing account data for a plurality of financial portfolios wherein the assets of each financial portfolio are allocated between at least two asset classes and wherein each asset class has associated therewith at least one investment style, each investment style representing a model portfolio (¶¶ 33-35 – Each separate account is effectively one of multiple mini-portfolios. The accounts may be aggregated to form the overall portfolio);

a data pre-processor for receiving (i) historical transactions associated with each financial portfolio (¶ 10 – Each asset class may be characterized, at least in part, based on historical data associated with the respective assets), and (ii) proposed transactions comprising possible adjustments to a plurality of positions held in each financial portfolio generated to mirror the model portfolios (¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102. By selecting a preferred portfolio, the investor accepts a particular combination of characteristics of the overall portfolio. Each mini-portfolio would represent a unique mix of assets to be held in a portfolio; therefore, getting from one mini-portfolio to another would effectively imply the execution of proposed transactions);

[Claim 11] wherein the model portfolio data comprises a plurality of securities and their respective weights (¶¶ 11-29, 44-49);

[Claim 12] wherein the investor account database further stores portfolio optimization settings in association with corresponding financial portfolios, and wherein the portfolio optimizer further considers the portfolio optimization settings when optimizing the financial portfolio (¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102. By selecting a preferred portfolio, the investor accepts a particular combination of characteristics of the overall portfolio);

[Claim 13] wherein the investor account database further stores client preference data in association with corresponding financial portfolio, and wherein the portfolio optimizer further considers the client preference data when optimizing the financial portfolio (¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102. By selecting a preferred portfolio, the investor accepts a particular combination of characteristics of the overall portfolio);

[Claim 37] wherein the portfolio optimizer is further configured to optimize allocations of trades within each financial portfolio by constructing and solving a mathematical representation of an objective function bound by constraints, wherein the constraints represent account data associated with each investment portfolio (¶¶ 4, 47-51).

Regarding claim 8, Bergmann discloses a portfolio optimizer module operating as software on a hardware platform and configured to optimize a financial portfolio across the at least two asset classes for after-tax returns for each financial portfolio, factoring in risk, return, and capital gains with execution of each of the plurality of possible adjustments and the historical transactions associated with each financial portfolio (§ 10 – Each asset class may be characterized, at least in part, based on historical data associated with the respective assets; §§ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout §§ 9-102; Abstract, §§ 4, 51 -- Risk is taken into account; Abstract, §§ 4, 7, 11, 16, 19, 22-25 – Return is taken into account; Abstract, § 56 – Capital gains are taken into account); however, Bergmann does not explicitly teach that the capital gains are assessed in terms of short term capital gains, short term capital losses, long term capital gains and long term capital losses. However, Peterson discloses a tax sensitive portfolio optimization strategy that accounts for capital gains and the tax laws governing the long-term and short-term capital gains rate (Peterson: col. 14, lines 20-34). In Peterson, “the tax effect associated with capital gains or losses on security is considered only in the case where securities are sold in a taxable account” and an objective function is used to assess this tax effect (Peterson: col. 24, lines 55-63). Peterson’s optimization is performed for assessing taxable and non-taxable effects on a portfolio (Peterson: abstract; col. 25, lines 1-44) in order to maximize after-tax portfolio returns for an acceptable risk tolerance (Peterson: col. 2,

lines 1-10). The non-linear objective function facilitates manageable analysis of a greater number of constraints within a flexible model (Peterson: col. 25, lines 4-8, 25-35). Peterson's optimization presents a common approach to the type of tax-related, multi-constraint portfolio optimization discussed in Bergmann (which also utilizes objective functions); therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Bergmann to specifically analyze short term capital gains, short term capital losses, long term capital gains and long term capital losses in order to facilitate manageable analysis of a greater number of constraints within a flexible model while yielding a more comprehensive understanding of the tax consequences associated with capital gains.

9. Claims 5, 9, 10, 19, 25, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (US 2002/0143682) in view of Peterson et al. (U.S. Patent No. 7,016,873), as applied to claims 1 and 8 above, and further in view of Schulz et al. (U.S. Patent No. 6,687,681).

[Claims 5, 9, 10] Neither Bergmann nor Peterson explicitly discloses that the portfolio optimizer is further configured to minimize tracking error from the model portfolios of the at least one investment style associated with the financial portfolio, balancing tracking error, tax costs, and transaction costs; however, Schulz discloses a portfolio optimization system/method that minimizes tracking error from the model portfolios of the at least one investment style associated with the financial portfolio, balancing tracking error, tax costs, and transaction costs (Schulz: col. 5, lines 10-57;

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col. 6, lines 4-30). Bergmann, Peterson, and Schulz are all directed toward portfolio optimization; therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Bergmann such that the portfolio optimizer is further configured to minimize tracking error from the model portfolios of the at least one investment style associated with the financial portfolio, balancing tracking error, tax costs, and transaction costs in order to produce more accurate portfolio optimization by taking into account errors that could affect the tax scenarios and analyses associated with the portfolio.

[Claims 19, 34] Neither Bergmann nor Peterson explicitly discloses that the portfolio optimizer is further configured to receive data relating to financial events external to the financial portfolio, and wherein the portfolio optimizer integrates the external transactions data into the optimization of the financial portfolio (claim 19) or incorporating data relating to financial events outside the financial portfolio when calculating the net tax position of the client associated with the financial portfolio (claim 34); however, Schulz discloses that the portfolio optimizer is further operative to receive data relating to financial events external to the financial portfolio, and wherein the portfolio optimizer integrates the external transactions data into the optimization of the financial portfolio (Schulz: col. 5, lines 1-14; col. 7, lines 41-57). Bergmann, Peterson, and Schulz are all directed toward portfolio optimization; therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Bergmann such that the portfolio optimizer is further configured to receive data relating to financial events external to the financial portfolio,

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and wherein the portfolio optimizer integrates the external transactions data into the optimization of the financial portfolio (claim 19) or incorporating data relating to financial events outside the financial portfolio when calculating the net tax position of the client associated with the financial portfolio (claim 34) in order to produce more accurate portfolio optimization by taking into account important external market data that could affect the tax scenarios and analyses associated with the portfolio.

[Claim 25] Neither Bergmann nor Peterson explicitly discloses an integration server configured to transmit calculated adjustments for a financial portfolio to an accounting system for trade execution; however, Schulz discloses such an integration server (Schulz: Fig. 3; col. 5, lines 1-62). Bergmann, Peterson, and Schulz are all directed toward portfolio optimization; therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Bergmann to include an integration server configured to transmit calculated adjustments for a financial portfolio to an accounting system for trade execution in order to provide the investor with the convenience of automatic execution of trades that would achieve the desired asset mix in the investor's portfolio.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susanna M. Diaz whose telephone number is (571) 272-6733. The examiner can normally be reached on Monday-Friday, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Abdi can be reached on (571) 272-6702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Susanna M. Diaz/  
Primary Examiner, Art Unit 3692